

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

JOEZEPEH W. TRIEPELS ET AL

PHN 17,327A

Serial No.: 09/519,547

Art Unit: 2833

Filed: March 6, 2000

Examiner: T. NGUYEN

Title: DISPLAY DEVICE

Commissioner for Patents
Washington, D.C. 20231

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APPELLANT'S BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

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Sir:

Appellants present their brief on appeal as follows:

REAL PARTY OF INTEREST

The real party of interest is the assignee, U.S. Philips Corporation, and not the parties named in the above caption.

RELATED APPEALS AND INTERFERENCES

With regard to identifying by number and filing date all other appeals or interferences known to appellants which will directly effect or be directly affected by or have a bearing on the Boards' decision in this appeal, Appellants are not aware of any such appeals or interferences.

STATUS OF THE CLAIMS

Claims 1-3 and 5-10 stand rejected and are appealed.

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STATUS OF AMENDMENTS

A amendment after final rejection was presented subsequent to the final rejection on May 1, 2003 which was considered not to place the application in condition for allowance according to the May 20, 2003 Advisory Action.

SUMMARY OF THE INVENTION

The present invention is directed to a display device provided with a liquid crystal cell (1) containing a liquid crystal material (2) between two transparent substrates (3,4) provided with electrodes (5,6). The electrodes (5,6) define pixels and must be supplied with drive voltages. A conducting track (8) on a support (9) provides such voltages. The display device is supplied as a single assembly and includes a metal-metal contact between a conductor pattern (14) and a connection pin (15). Pin (15), upon compression, forms an electrical connection between conducting track (8) and conductor pattern (14).

THE ISSUES

- I. Whether under 35 U.S.C. § 103(a), the differences between the invention of Claims 1-3, 6, 8, and 10 and U.S. Patent 4,012,117 (Lazzery) in combination with U.S. Patent 4,528,500 (Lightbody) are such that the invention as a

whole would have been obvious when the invention was made to those of ordinary skill in the art.

II. Whether under 35 U.S.C. § 103(a), the differences between the invention of Claims 5 and 9 and U.S. Patent 4,012,117 (Lazzery) in combination with U.S. Patent 4,528,500 (Lightbody) and U.S. Patent 5,847,738 (Hiramoto) are such that the invention as a whole would have been obvious when the invention was made to those of ordinary skill in the art.

III. Whether under 35 U.S.C. § 103(a), the differences between the invention of Claim 7 and U.S. Patent 4,012,117 (Lazzery) in combination with U.S. Patent 4,528,500 (Lightbody) and U.S. Patent 5,233,451 (Iguchi) are such that the invention as a whole would have been obvious when the invention was made to those of ordinary skill in the art.

PRIOR ART

1. U.S. Patent 4,012,117 (Lazzery)
2. U.S. Patent 4,528,500 (Lightbody)
3. U.S. Patent 5,847,738 (Hiramoto)
4. U.S. Patent 5,233,451 (Iguchi)

GROUPING OF CLAIMS

With regard to the rejection of Claims 1-3 and 5-10 under 35 U.S.C. § 103, the claims stand or fall together.

ARGUMENT

- I. Whether under 35 U.S.C. § 103(a), the differences between the invention of Claims 1-3, 6, 8, and 10 and U.S. Patent 4,012,117 (Lazzery) in combination with U.S. Patent 4,528,500 (Lightbody) are such that the invention as a whole would have been obvious when the invention was made to those of ordinary skill in the art.

Lazzery and Lightbody, taken individually or in any proper combination, fail to render the invention of Claim 1 obvious to one of ordinary skill in the art at the time of the invention.

As stated in previous prosecution, in Lazzery, the conductor, although resilient due to the underlying rubber, is a plurality of spaced apart at least partially encircling lines (78) of conductive material. The conductive material encircles an insulating material (such as Mylar) wrapped around cylinder 70. Lazzery's conductor is substantially more complex to produce and insert into a Liquid Crystal Module than Appellants' connection pin. It requires conductors wrapped around Mylar, wrapped around rubber, wrapped around a wire, which is held in place by slots in which the wire must be inserted (see, e.g., col. 2, line 45 to col. 4, line 27). Further, Lazzery lacks the advantage of added contact reliability from variable-pressure metal-metal contact provides in a manufactured standard pin.

The present Office Action cites Lightbody as disclosing an electrically conducting connection pin board (11) having a plurality of resilient connection pins (12) providing variable-pressure metal-metal contact. Even substituting pin board 11/pin 12 assembly for the previous argument, Lightbody and

Lazzery cannot be properly combined. Since Lazzery's contact requires conductors wrapped around Mylar, wrapped around rubber, wrapped around a wire, which is held in place by slots in which the wire must be inserted, and Lightbody utilizes double ended pins 12 distributed through pin board 11, one of ordinary skill in the art at the time of the invention would not have the requisite motivation to combine the two references for the purpose of improving connection and stabilization.

The Office Action argues, on Page 6, that Lazzery's contact assembly is modified by replacing it with the Lightbody pin board, which is routine to one of skill in the art. This is not the case because Lazzery's conductive connection is not the equivalent of, nor would one of ordinary skill in the art replace Lazzery's rubber/metal contact with a test pin board containing pins of Lightbody because rubber and resilient pins function in such substantially different ways. (See, e.g., *Slimfold Mfg. Co. v. Kinkead Industries, Inc.*, 932 F.2d 1453, 18 USPQ2d 1942 (Fed Cir. 1991) where a latch and a wedge were held to have very different modes of operation, different enough in the way that it operates that it avoided infringement.) For example, Lazzery's contact assembly only provides a conductive connection at the edges of a chip via terminals 40. Lightbody, on the other hand, shows resilient pins 12 on a matrix forming conductive connections at points 22 on circuit board 23. Further, contrary to the Office Action's arguments, pin board 11 is "a blank electrically non-conductive board" (See, e.g., Col. 5:1WX\Amendments\2003 Amendments\17327A.brief.doc

4, lines 6-7). Additionally, Lightbody relates only to an apparatus for testing printed circuit boards and is designed to be removed after testing, whereas Lazzery requires dedicated contacts for a display assembly.

M.P.E.P. § 706.02(j) states:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In addition, the Office Action states that it does not modify the Lazzery rubber part but rather, replaces it with Lightbody's pin board. However, to modify the invention in Lazzery to replace column 70 with a plurality of double pins, as in Lightbody, would require substantial manipulation of the cell. Evidence of such manipulation occurs in Lightbody, for example, in Col. 3, lines 49-62, "...small lips 18 serve to hold the pin board 11 vertically spaced in respect to the matrix substrate" and "locating pins 15 in combination with a tight fit of the pin board 11... prevent horizontal movement..." This would require a large effort on the part of one skilled in the art at the time of the invention to achieve the result. This further indicates that Lazzery and Lightbody cannot properly be combined.

Further, Lazzery relies upon clamping to maintain a tight and rigid fitting assemblage of parts and contacts. However, as recited in Lazzery, "[s]ome slight deformation of the connectors 24 thus occurs, the connectors bowing out slightly toward and against the cell lower substrate" (Col. 4, lines 39-42). Lazzery compensates for this deformation by including projections to serve as stops which limit the pressure applied against the resilient connectors (e.g., Col. 4, lines 42-46). It is unclear to Appellants how one skilled in the art could possess the requisite motivation to combine Lazzery with Lightbody given this additional requirement.

In addition, Claim 1 is also believed patentable since the rubber column of Lazzery cannot be replaced by pins without improper hindsight by "use[ing] the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention," see *In Re Denis Rouffet*, 47 USPQ.2d 1453, 1457-58 (Fed. Cir. 1998).

Consequently, Lazzery in view of Lightbody fails to anticipate Appellants' invention. Consequently, Claim 1 is believed patentable over Lazzery in view of Lightbody for at least these reasons.

II. Whether under 35 U.S.C. § 103(a), the differences between the invention of Claims 5 and 9 and U.S. Patent 4,012,117 (Lazzery) in combination with U.S. Patent 4,528,500

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(Lightbody) and U.S. Patent 5,847,738 (Hiramoto) are such that the invention as a whole would have been obvious when the invention was made to those of ordinary skill in the art.

Claims 5 and 9 depend from independent Claim 1 discussed above and are believed patentable for at least the same reasons.

III. Whether under 35 U.S.C. § 103(a), the differences between the invention of Claim 7 and U.S. Patent 4,012,117 (Lazzery) in combination with U.S. Patent 4,528,500 (Lightbody) and U.S. Patent 5,233,451 (Iguchi) are such that the invention as a whole would have been obvious when the invention was made to those of ordinary skill in the art.

Claim 7 depends from independent Claim 1 discussed above and is believed patentable for at least the same reasons.

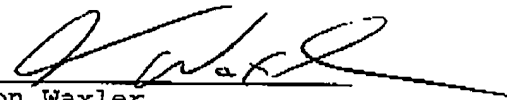
CONCLUSION

For all of the above reasons, it is respectfully submitted that the final rejection of Claims 1-3 and 5-10 is in error. Accordingly, reversal of the final rejection of each of these claims is respectfully solicited.

This brief is being filed in triplicate.

As per MPEP § 1208.3 and 37 CFR § 1.193(b)(2), when appellant continues prosecution subsequent to a prosecution being reopened but prior to a decision on the merits by the Board of Patent Appeals and Interferences, the fee paid for the notice of appeal and appeal brief will be applied to a later appeal on the same application. Appellants respectfully request that the fee paid for the appeal brief filed December 3, 2002 be applied to this appeal brief. The Commissioner is hereby authorized to credit any overpayment or charge any fee (except the issue fee) to Account No. 14-1270.

Respectfully submitted,

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5 August, 2003

APPENDIX

1. A display device comprising a first substrate having a conductor pattern for connecting pixels in an electrically conducting manner, and electrically conducting connections between the pattern and conducting tracks on a support, at least one said conducting connection comprising a resilient connection pin which provides a variable-pressure metal-metal contact, in which each metal of the metal-metal contact is chosen from the group of gold, silver and nickel.
2. A display device as claimed in claim 1, characterized in that the metal-metal contact comprises a gold-gold contact.
3. A display device as claimed in claim 1, characterized in that the metal-metal contact is present at the area of the first substrate.
5. A display device as claimed in claim 1, characterized in that the conducting connection between the resilient conductor and the part of the conductor pattern comprises an anisotropically conducting foil.
6. A display device as claimed in claim 1, wherein the conductor pattern on the first substrate faces the support.

7. A display device as claimed in claim 1, wherein the conductor pattern comprises conductors which extend to an edge of the first substrate, the electrically conducting connection comprising a conducting part which encloses said edge.

8. A display device as claimed in claim 1, characterized in that the display device comprises a second substrate opposite from part of the first substrate and an electro-optical material between the two substrates, each being provided with substrate electrodes which define pixels with the electro-optical material, the first substrate being provided with the conductor pattern beyond the part of the first substrate located opposite the second substrate.

9. A display device as claimed in claim 1, characterized in that the display device comprises an electroluminescent material.

10. A display device as claimed in claim 1, characterized in that at least a part of the conductor pattern is connected in an electrically conducting manner to a conducting track on the side of the support remote from the first substrate.

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I certify that these documents consisting of 34 pages (including this cover sheet and an appeal brief filed in triplicate) is being transmitted via facsimile to the United States Patent and Trademark Office at the telephone number set forth above on August 5, 2003.


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